I. AMENDMENTS

Please cancel claim 2 without prejudice, and amend the claims as indicated below. Upon entry of the present amendment, the status of the claims will be as follows:

1. (Currently amended) A method for determining whether a test plant has been exposed to ~~an abiotic stress condition~~ cold stress, the method comprising contacting, under conditions suitable for hybridization, nucleic acid molecules representative of expressed polynucleotides in cells of the test plant, wherein said nucleic acid molecules comprise RNA expressed in the cells, cDNA derived from said RNA, cRNA derived from said RNA, or cRNA derived from said cDNA,

with a nucleic acid probe comprising at least 15 nucleotides of a nucleotide sequence as set forth in SEQ ID NO:1034 or SEQ ID NO:3729, or a nucleotide sequence complementary thereto,

and, optionally, with at least one nucleic acid probe comprising at least 15 nucleotides of a nucleotide sequence as set forth in any of SEQ ID NOS:1-155, 157-228, 230-232, 234-557, 559-572, 574-605, 607-634, 636-786, 788-812, 814-1261, ~~2227-2585,~~ 2704-2857-2928, 2930-2932, 2934-3256, 3258-3271, 3273-3304, 3306-3323, 3325-3333, 3335-3485, 3487-3511, and 3313-3955, ~~and 4910-5263,~~ or a nucleotide sequence complementary thereto,

whereby

detecting selective hybridization of at least one nucleic acid probe, or

detecting a change in a level of selective hybridization as compared to a level of selective hybridization obtained using said nucleic acid molecules representative of expressed polynucleotides in cells of a plant known not to have been exposed to ~~an abiotic stress condition~~ cold stress,

indicates that the test plant has been exposed to ~~an abiotic stress condition~~ cold stress, and

whereby an absence of selective hybridization of at least one nucleic acid probe indicates that the test plant has not been exposed to ~~an abiotic stress condition~~ cold stress.

2 to 28. (Cancelled)

29. (Currently amended) A method of producing a transgenic plant comprising plant cells that exhibit altered responsiveness to at least a cold stress condition, the method comprising introducing into a plant cell genome,

~~a polynucleotide portion of~~ a cold stress-regulated gene comprising a nucleotide sequence as set forth in SEQ ID NO:1034 or SEQ ID NO:3729,

and, optionally, ~~a polynucleotide portion of~~ a plant stress-regulated gene comprising a nucleotide sequence as set forth in any of 1-155, 157-228, 230-232, 234-557, 559-572, 574-605, 607-634, 636-786, 788-812, 814-1262, 1264-1386, 1387-1390, 1392-1404, 1406-1444, 1446-1483, 1485-1588, 1590-1608, 1610-1633, 1634-1725, 1727-1865, 1867-1917, 1919-1927, 1929-2855, 2857-2928, 2930-2932, 2934-3256, 3258-3271, 3273-3304, 3306-3323, 3325-3333, 3335-3485, 3487-3511, 3313-3956, 3958-4078, 4080-4097, 4099-4136, 4138-4175, 4177-4279, 4281-4299, 4301-4324, 4326-4414, 4416-4552, 4554-4602, and 4604-5379, whereby ~~the polynucleotide portion of~~ the plant stress-regulated gene modulates a response of the plant cells to at least a cold stress condition, thereby producing a transgenic plant comprising plant cells that exhibit altered responsiveness to the stress condition.

30. (Previously presented) The method of claim 29, wherein the transgenic plant comprises plant cells that exhibit altered responsiveness to a combination of at least two stress conditions.

31. (Cancelled)

32. (Currently amended) The method of claim 29, wherein ~~the polynucleotide portion of~~ the stress-regulated gene encodes a stress-regulated polypeptide ~~or functional peptide portion thereof, wherein the functional peptide portion comprises a contiguous amino acid sequence of~~

~~the polypeptide having the activity of the full length polypeptide or having antagonist activity with respect to the full length polypeptide~~.

33. (Currently amended) The method of claim 32, wherein the stress-regulated polypeptide ~~or functional peptide portion thereof~~ increases the stress tolerance of the transgenic plant as compared to the stress tolerance of a corresponding plant not expressing the stress-regulated polypeptide ~~or functional peptide portion thereof~~.

34. (Currently amended) The method of claim 32, wherein the stress-regulated polypeptide ~~or functional peptide portion thereof~~ decreases the stress tolerance of the transgenic plant as compared to the stress tolerance of a corresponding plant not expressing the stress-regulated polypeptide ~~or functional peptide portion thereof~~.

35. (Currently amended) The method of claim 32, wherein ~~the polynucleotide portion of~~ the stress-regulated gene is operatively linked to a heterologous promoter.

36. (Currently amended) The method of claim 29, wherein ~~the polynucleotide portion of~~ the stress-regulated gene comprises a stress-regulated regulatory element.

37. (Original) The method of claim 36, wherein, upon introducing the stress-regulated regulatory element into the plant cell, the regulatory element integrates into the plant cell genome in a site-specific manner.

38. (Previously presented) The method of claim 37, wherein, upon integrating into the plant cell genome, the regulatory element is operatively linked to a heterologous nucleotide sequence, whereby the regulatory element regulates expression of the heterologous nucleotide sequence in response to a stress condition.

39. (Previously presented) The method of claim 36, wherein the stress-regulated regulatory element is a mutant regulatory element, which is not responsive to the stress condition, whereby upon integrating into the plant cell genome, the mutant regulatory element disrupts an endogenous stress-regulated regulatory element of a plant stress-regulated gene, thereby altering the responsiveness of the plant stress-regulated gene to the stress condition.

40. (Original) The method of claim 29, wherein the stress an abiotic stress.

41. (Currently amended) The method of claim 36, wherein the stress-regulated regulatory element is operatively linked to a polynucleotide encoding a ~~detectable~~ marker.

42. (Original) A transgenic plant produced by the method of claim 29.

43. (Currently amended) A plant cell from the transgenic plant of claim 42, wherein said plant cell exhibits altered responsiveness to the stress condition or stress conditions as compared to a corresponding plant cell of a plant lacking ~~the polynucleotide portion of~~ the stress-regulated gene.

44. (Original) A seed produced by the transgenic plant of claim 42.

45. (Currently amended) A cDNA or genomic DNA library prepared from the transgenic plant of claim 42, or from a plant cell from said transgenic plant, wherein said plant cell exhibits altered responsiveness to the stress condition as compared to a corresponding plant cell of a plant lacking ~~the polynucleotide portion of~~ the stress-regulated gene.

46. (Previously presented) A transgenic plant, which contains a transgene comprising a polynucleotide portion of a cold stress-regulated gene comprising a nucleotide sequence as set forth in SEQ ID NO:1034 or SEQ ID NO:3729,

and, optionally, a transgene comprising a polynucleotide portion of plant stress-regulated gene comprising a nucleotide sequence as set forth in any of SEQ ID NOS:1-155, 157-228, 230-232, 234-557, 559-572, 574-605, 607-634, 636-786, 788-812, 814-1262, 1264-1386, 1387-1390, 1392-1404, 1406-1444, 1446-1483, 1485-1588, 1590-1608, 1610-1633, 1634-1725, 1727-1865, 1867-1917, 1919-1927, 1929-2855, 2857-2928, 2930-2932, 2934-3256, 3258-3271, 3273-3304, 3306-3323, 3325-3333, 3335-3485, 3487-3511, 3313-3956, 3958-4078, 4080-4097, 4099-4136, 4138-4175, 4177-4279, 4281-4299, 4301-4324, 4326-4414, 4416-4552, 4554-4602, and 4604-5379.

47. (Original) The transgenic plant of claim 46, wherein the transgenic plant exhibits altered responsiveness to a stress condition as compared to a corresponding wild-type plant.

48. (Previously presented) The transgenic plant of claim 47, wherein the transgene disrupts an endogenous stress-regulated gene in the plant, thereby reducing or inhibiting expression of the gene in response to a stress condition as compared to expression of the gene in response to the stress condition in a corresponding plant lacking the transgene.

49. (Previously presented) The transgenic plant of claim 46, wherein the plant exhibits increased tolerance to a stress condition as compared to the stress tolerance of a corresponding plant lacking the transgene.

50. (Previously presented) The transgenic plant of claim 47, wherein the plant exhibits decreased tolerance to a stress condition as compared to the stress tolerance of a corresponding plant lacking the transgene.

51. (Previously presented) The transgenic plant of claim 46, wherein the transgene comprises a coding sequence of a stress-regulated gene.

52. (Original) The transgenic plant of claim 51, wherein the coding sequence is operatively linked to a heterologous regulatory element.

53. (Original) The transgenic plant of claim 52, wherein the regulatory element is a constitutively active regulatory element, an inducible regulatory element, or a tissue specific or phase specific regulatory element.

54. (Previously presented) The transgenic plant of claim 46, wherein the transgene comprises a stress-regulated regulatory element operatively linked to a heterologous nucleotide sequence.

55. (Original) The transgenic plant of claim 54, wherein the transgenic plant expresses a polypeptide encoded by the heterologous nucleotide sequence.

56. (Previously presented) The transgenic plant of claim 55, wherein the polypeptide improves the nutritional value or ornamental value of the plant as compared to the nutritional value or ornamental value of a corresponding plant lacking the transgene.

57. (Original) The transgenic plant of claim 46, wherein the plant comprises multiple transgenes.

58. (Previously presented) A plant stress-regulated gene regulatory element, wherein the gene comprises a nucleotide sequence as set forth in SEQ ID NO:1034 or SEQ ID NO:3729.

59. (Previously presented) The plant stress-regulated gene regulatory element of claim 58, comprising a nucleotide sequence as set forth in SEQ ID NO:3729.

60 to 65. (Cancelled)

66. (Currently amended) A method of selecting a plant having an altered resistance to a cold stress condition or a combination of abiotic stress conditions comprising a cold stress condition, the method comprising:

a) contacting nucleic acid molecules representative of expressed polynucleotides in a plant cell of a plant to be examined for having an altered resistance to an abiotic stress comprising cold stress, as compared to a corresponding plant cell of a plant not exposed to the abiotic stress condition comprising cold stress, wherein said nucleic acid molecules comprise RNA expressed in the cells, cDNA derived from said RNA, cRNA derived from said RNA, or cRNA derived from said cDNA,

with a nucleic acid probe that selectively hybridizes under stringent conditions to a cold stress-regulated gene comprising a nucleotide sequence as set forth in SEQ ID NO:1034 or SEQ ID NO:3729,

and, optionally a nucleic acid probe that selectively hybridizes under stringent conditions to a plant stress-regulated gene comprising a nucleotide sequence as set forth in any of SEQ ID NO:1-155, 157-228, 230-232, 234-557, 559-572, 574-605, 607-634, 636-786, 788-812, 814-1262, 1264-1386, 1387-1390, 1392-1404, 1406-1444, 1446-1483, 1485-1588, 1590-1608, 1610-1633, 1634-1725, 1727-1865, 1867-1917, 1919-1927, 1929-2855, 2857-2928, 2930-2932, 2934-3256, 3258-3271, 3273-3304, 3306-3323, 3325-3333, 3335-3485, 3487-3511, 3313-3956, 3958-4078, 4080-4097, 4099-4136, 4138-4175, 4177-4279, 4281-4299, 4301-4324, 4326-4414, 4416-4552, 4554-4602, and 4604-5379;

b) detecting a level of selective hybridization of the nucleic acid probes to a nucleic acid molecule of said nucleic acid molecules representative of an expressed polynucleotide in the plant cell,

wherein the level of selective hybridization corresponds to the level of the expressed polynucleotide in the plant cell, and

wherein a difference in the level of the expressed polynucleotide in the plant cell as compared to the level of expression of the polynucleotide in a corresponding plant cell of a plant not exposed to the abiotic stress condition comprising cold stress is indicative of resistance of the plant to an abiotic stress; and

c) selecting a plant having a level of expression of a polynucleotide indicative of altered resistance to an abiotic stress condition comprising a cold stress condition.

67. (Original) A method of expressing a heterologous nucleotide sequence in a plant cell, the method comprising introducing into the plant cell a plant stress-regulated regulatory element of claim 58 operatively linked to the heterologous nucleotide sequence, whereby, upon exposure of the plant cell to stress condition, the heterologous nucleotide sequence is expressed in the plant cell.

68. (Original) The method of claim 67, wherein the heterologous nucleotide sequence encodes a selectable marker.

69. (Previously presented) The method of claim 67, wherein the heterologous nucleotide sequence encodes a polypeptide that improves the nutritional value of the plant cell as compared to the nutritional value of a corresponding plant lacking the plant stress-regulated regulatory element operatively linked to the heterologous nucleotide sequence.

70. (Previously presented) The method of claim 67, wherein the heterologous nucleotide sequence encodes a polypeptide that improves the ornamental value of the plant cell as compared to the ornamental value of a corresponding plant lacking the plant stress-regulated regulatory element operatively linked to the heterologous nucleotide sequence.

71 to 74. (Cancelled)

75. (Currently amended) A method for identifying a polynucleotide involved in a stress response of a plant, the method comprising:

a) contacting nucleic acid molecules representative of expressed polynucleotides in plant cells of a plant exposed to a stress condition or combination of stress conditions with an array of probes representative of the plant cell genome, wherein said nucleic acid molecules comprise RNA expressed in the cells, cDNA derived from said RNA, cRNA derived from said RNA, or cRNA derived from said cDNA; and

b) detecting a nucleic acid molecule that exhibits at least a two-fold change in the level of expression as compared to the level of the nucleic acid molecule in a corresponding plant cell of a plant that was not exposed to the stress condition, thereby identifying a polynucleotide involved in a stress response of the plant.

76 to 79. (Cancelled)

80. (Previously presented) An isolated polynucleotide, comprising SEQ ID NO:1034.

81. (Previously presented) The isolated polynucleotide of claim 80, further comprising an operatively linked stress responsive regulatory element comprising SEQ ID NO:3729.

82. (Previously presented) A recombinant nucleic acid molecule, comprising the isolated polynucleotide of claim 80 operatively linked to a heterologous nucleotide sequence.

83. (Previously presented) A vector, comprising the polynucleotide of claim 80.

84. (Previously presented) The vector of claim 83, which is an expression vector.

85. (Previously presented) A cell containing the isolated polynucleotide of claim 80.

86. (Previously presented) The cell of claim 85, which is a plant cell.